CLAIMS

What is Claimed is:

1.   A method for coating a surface of a screw machine which comprises the steps of:

providing at least one of a plurality of screw machine components including a rotor housing having at least a pair of parallel, overlapping bores; at least a conjugate pair of intermeshing rotors located in said bores, wherein each of said rotors has helical lobes having radially outward tip portions and intervening radially inward root portions;

rough coating a surface of at least one of said plurality of components with a conformable coating, wherein said coating is applied to said surface and has one of variable thickness over the surface and evenly applied with a substantially excess thickness over said surface; and

leveling said conformable coating to a substantially uniform thickness prior to final assembly of said plurality of components, said substantially uniform thickness selected to ease assembly of said components while maintaining coating performance criteria.

2.   The method according to claim 1, wherein the step of leveling further includes the step of moving means for leveling adjacent said surface.

3.   The method according to claim 2, wherein said means for leveling comprises a sizing rod or fixture.

4.   The method according to claim 2. wherein said means for leveling comprises a mating component to said at least one of said plurality of components.

5.   The method according to claim 4, wherein said at least one of said plurality of components comprises a screw rotor, and wherein said mating component comprises an intermeshing screw rotor.

6. The method according to claim 5, wherein said intermeshing screw rotor has intermeshing surfaces, wherein said step of leveling further comprises positioning and rotating said intermeshing screw rotor such that said intermeshing surfaces are located a predetermined distance from said surface, said predetermined distance selected to allow said intermeshing surfaces to level said coating.

7. The method of claim 2 wherein said surface is a surface of the tip portions of said lobes of said rotors.

8. The method of claim 2 wherein said surface is a surface of said root portions of said lobes of said rotors.

9. The method of claim 2 wherein said surface is a surface of said bores.

10. The method of claim 6, wherein said surface is a surface of the tip portions of said lobes of said rotors.

11. The method of claim 6, wherein said surface is a surface of said root portions of said lobes of said rotors.

12. The method of claim 6, wherein said surface is a surface of said bores.

13. A method for coating surfaces of a screw machine which comprises the steps of:

providing at least one of a plurality of screw machine components comprising a rotor housing having at least a pair of parallel, overlapping bores; at least a conjugate pair of intermeshing rotors located in said bores, each of said rotors having helical lobes and intervening flutes; an outlet casing disposed at a discharge end of said rotor housing, each of said rotors having a discharge end facing said outlet casing;

rough coating a surface of at least one of said plurality of components with a conformable coating, wherein said coating is applied to said surface and has one of

variable thickness over the surface and evenly applied with a substantially excess thickness on said surface; and

leveling said conformable coating to a substantially uniform thickness prior to final assembly of said plurality of components, said substantially uniform thickness selected to ease assembly of said components, while maintaining coating performance criteria .

14.   The screw machine of claim 13 wherein said surface is a surface of said discharge ends of said rotors.

15.   The method of claim 13, wherein said surface is a surface of said outlet casing.

16.   The method of claim 13 further characterized by a member located intermediate said discharge ends of said rotors and said outlet casing, said member having a surface facing said discharge ends of said rotors, wherein said surface is a surface of said member.